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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,277	12/04/2003	Gary J. Rosenthal	42830-10010	7142

25231 7590 01/08/2009

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EXAMINER	
ROBERTS, LEZAH	
ART UNIT	PAPER NUMBER
1612	

MAIL DATE	DELIVERY MODE
01/08/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/728,277	ROSENTHAL ET AL.	
	Examiner	Art Unit	
	LEZAH W. ROBERTS	1612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,13,15,17,19,20,24,25,31,35,38,133-137,140,142,143 and 145-152* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 13, 15, 17, 19, 20, 24, 25, 31, 35, 38, 133-137, 140, 142, 143 and 145-152* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *18 Mar 2008; 19 Mar 2008 & 12 Jun 2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to the Appeal Brief filed September 22, 2008. All previous rejections have been withdrawn unless stated below.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims

Claim Rejections - 35 USC § 112 – Indefiniteness (New Rejection)

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 15, 17, 19, 20, 24, 25, 31, 35, 38, 133-137, 140, 142, 143 and 145-152 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "over at least some range of temperatures between 1°C and 37°C; wherein at some temperature in a range of from 2°C to 8°C". The limitation is indefinite insofar as it uses the terminology "some range" and "some temperature" which makes the claims indefinite. In regards to "some temperature", it is suggested the claim recites "a temperature".

Claim 40 recites the limitation "The method of Claim 137". Claim 137 recites a therapeutic composition. The claims lacks antecedent basis.

The claim has been previously been and presently treated to be drawn to a therapeutic composition.

Claim Rejections - 35 USC § 103 – Obviousness (Previous Rejections)

1) Claims 1, 15, 17, 19-20, 24-25, 31, 38, 133-137, 140, 142-143 and 145-152 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeck et al. (US 6,620,428) in view of Krezanoski (US 4,188,373). The rejection is maintained and withdrawn in regards to claim 140 145, and 147.

Applicant's Arguments

Applicant argues the Examiner has refused to give any weight to the evidence submitted showing significant and unexpected properties of the claimed compositions as effective treatment of oral mucositis. Hoeck et al. discloses compositions comprising mucolytic agent, which is different and not indicative of efficacy for treatment of mucositis, as discussed in the Troha Declaration and does not disclose poloxamer 407 specifically and Krezanoski et al. disclose "pharmaceutical vehicles" for delivering drugs to a mucous membrane, with a focus on ocular applications and N-acetylcysteine is not listed among the exemplary drugs. Applicant further asserts that Hoeck et al. discloses transmucosal administration is temporarily tolerated for a short time in spite of

disadvantages identified with transmucosal delivery, col. 12, lines 17-34, and is teaching away from a delivery composition of Krezanoski (see page 6 of Appeal Brief).

Applicant further submits, for *arguendo*, one of ordinary skill in the art would have a multitude of possible transmucosal delivery vehicles to use for delivering the N-acetylcysteine of Hoeck et al. and Krezanoski would be only one. This situation seems to be particularly susceptible to hindsight biases that should be guarded against (see Appeal brief page 7). He supports this position with U.S. Patent No. 6,503,955 by Dobrozsi et al. ("Dobrozsi et al.") and U.S. Patent No. 6,316,011 by Ron et al. ("Ron et al."). One of ordinary skill in the art would not be led to a combination of Hoeck et al. with Krezanoski as asserted by the Examiner, especially when considering the teachings away by Hoeck et al., Ron et al., and by Dobrozsi et al. (see page 6-9).

Applicant further asserts submission of appropriate rebuttal evidence, and all such rebuttal evidence must be considered in determining the question of patentability. The application's specification and the Troha Declaration provides significant evidence of a long felt but unresolved need for a treatment for oral mucositis as a side effect of cancer therapy (see pages 10 and 11 of brief). Applicant further describes the experiments disclosed by the Troha Declaration, and submits the Declaration provides significant evidence of at least the following:

(1) Poloxamer 407 formulated in water does not have efficacy for treatment of oral mucositis; (2) N-acetylcysteine has efficacy for treating oral mucositis; (3) The efficacy of oral mucositis treatment with N-acetylcysteine can be increased by a significant and surprising amount when formulated with the poloxamer 407 in a

composition of the rejected claims relative to formulation of N-acetylcysteine in water; and (4) oral mucositis is a serious problem for certain cancer patients undergoing radiation therapy, and there is a long-felt but unresolved need for a treatment for such oral mucositis and the claimed composition can address that need (see pages 10-13).

Evidence presented in the application specification and the Troha Declaration show that the claimed composition has a property, unexpected from the prior art, of being effective for treatment of oral mucositis as a side effect of cancer therapy, and that the claimed composition addresses a long felt but unsolved need for such a treatment.

Applicant asserts the Examiner makes no mention of any consideration of the performance data presented and discussed in the Troha Declaration or in the application specification in relation to evidence of unexpected properties or evidence of addressing a long felt but unsolved need. The consideration and statements made by the Examiner in the previous office action in regards to the Troha Declaration are incorrect and not in conformance with controlling legal precedent. In the instant application, assuming, *arguendo*, that the rejection based on Hoeck et al. and Krezanoski makes out a *prima facie* case of obviousness, the Examiner has not given all rebuttal evidence consideration, including evidence of teachings away (e.g., Dobrozsi et al., Ron et al.) in the prior art when considered as a whole, evidence of unexpected properties of the claimed composition and evidence of addressing a long felt but unsolved need.

It is clear that neither Hoeck et al. nor Krezanoski discloses the compositions of the rejected claims or in any way suggests that N-acetylcysteine, in any formulation, has efficacy for treatment of N-acetylcysteine [sic].

Examiner's Response

The Examiner disagrees and submits that when taking both references into account, it would have been obvious to combine them. The Examiner has previously considered and reconsidered the evidence presented by Applicant. The evidence presented by Applicant appears to be unexpected, but the instant claims are not commensurate in scope with the Declaration. Applicant provides results in comparison to control compositions which include 1) a composition of water, 2) a composition of water with poloxamer 407 and 3) a composition with water and the active agent. The examples disclosed in the Declaration comprise 10 percent N-acetylcysteine whereas the compositions of the instant claims are not drawn to any specified amounts. It is expected that the instant composition is more effective in comparison with water and the poloxamer containing vehicle because these compositions do not comprise the active agent, N-acetylcysteine. Accordingly, it cannot be determined if the results would occur where N-acetylcysteine comprises 0.1% of the compositions as recited in instant claim 137 or 143.

In regards Krezanoski being one possibility for a vehicle out of a multitude of vehicles, the prior art asserted by Applicant discloses that the vehicles of Krezanoski are commonly used and therefore it would be reasonably expected for one of skill in the

art to use these vehicles. Further Krezanoski teaches the advantages of using these vehicles and gives a range for using the recited poloxamer of 10% to 20%. It is reasonable to conclude that one of skill in the art would take into consideration of Dobrozsi et al. and Ron et al. and still find the advantage of using the vehicles of Krezanoski. As discussed by Applicant, Ron et al. discloses high concentrations of poloxamer have disadvantages, therefore teaching away from the vehicles of Dobrozsi et al. The vehicles of Krezanoski may comprise concentrations of poloxamer lower than the concentrations of poloxamer in the vehicles disclosed by Ron et al. as being disadvantageous and still provide the increase in prolonged pharmacologic response. It is reasonable to conclude that one of skill in the art would prefer the compositions of Krezanoski at a lower concentration over those of Ron et al., which include a step of modifying poloxamers similar to those used by Krezanoski. As to Applicant's assertion that Hoeck teaches away from transmucosal administration, the Examiner disagrees. Although the reference states some disadvantages to oral administration, transmucosal administration enables the drug to enter the system at a faster rate than the transdermal route. The reference states:

> As the period of time from the first application of a transdermal device according to the present invention until a therapeutically effective serum level of N-Acetyl-L-cysteine is achieved is in the order 2-3 hours the complementary and concomitant use of another administration form may be of value. Oral, sublingual, buccal, nasal, pulmonary and rectal, or possibly other transmucosal, administration of N-Acetyl-L-cysteine results in that the drug reaches the system more rapidly than through the transdermal route. As mentioned above said non-transdermal administration forms have the disadvantage of a lower bioavailability than the transdermal form of administration. Anyhow this disadvantage, and problems related thereto, may be temporarily tolerated if a mucolytic effect is desirable in the period of time before the therapeutic effect is achieved from the transdermal device (see col. 12, lines 1-16).

The problems of using transmucosal routes are the bioavailability. Krezanoski remedies this problem by teaching a vehicle that increases drug absorption. Since these vehicles have this property and are commonly used, it would have been obvious to one of skill in the art to use these vehicles when administering N-acetylcysteine to improve bioavailability, when a transmucosal composition is needed. Therefore, Hoeck does not teach away from using transmucosal routes.

2) Claims 1, 15, 17, 19-20, 24-25, 31, 35, 133-137, 140, 142-143 and 145-152 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoeck et al. (US 6,620,428) in view of Piechota, Jr. (US 5,256,396). The rejection is maintained and withdrawn in regards to claim 140 145, and 147.

Applicant's Arguments

Applicant asserts the similar arguments as above. See Applicant's arguments above. In regards to Piechota et al., Applicant argues they disclose a poloxamer-based drug delivery composition for topical application. The drug delivery composition of Piechota is very similar to the poloxamer-based drug delivery composition of Krezanoski, and the Examiner's reasoning in making the rejection for Ground 2 parallels the rejection made for Ground 1. It is noted that there is no teaching by Piechota that the drug delivery composition of Piechota was found to increase drug absorption by the mucous membrane. However, as was the situation with Krezanoski with respect to the

rejection of Ground 1, so also the claims rejected under Ground 2 are not obvious over the cited references.

Examiner's Response

See Examiner's Response above. In regards to the motivational statement, the work of Krezanoski was known at the time of Piechota, Jr. Therefore it would have been obvious to use these vehicles. Further the reference discloses Poloxamer 407 is virtually tasteless and odorless and hence has found use in solubilization of aromatics in oral hygiene products such as aqueous alcoholic mouthwashes. Furthermore the reference specifically teaches oral compositions. It also teaches preferably lower concentrations of poloxamer, Example 15 comprising 15%, therefore avoiding the disadvantages taught in Ron et al., as submitted by Applicant. Furthermore the reference discusses the viscosity of the composition and why a low viscosity is desired.

Additional Arguments Directed to Specific Dependent Claims

Applicant's Arguments

Claims 15, 137, 140, 143, 146 and 147 require N-acetylcysteine in an amount effective as formulated in the composition to provide therapeutic effect for treatment of oral mucositis as a side effect of cancer therapy and Claim 15 further requires that in that context the concentration of the N- acetylcysteine is in a range of from about 0.001

weight percent to about 50 weight percent, and Claims 137, 140, 143, 146 and 147 have narrower requirements for the concentration of N- acetylcysteine. The Examiner's position on the concentration of N-acetylcysteine is that it would have been obvious for one ordinary skill in the art to have optimized the concentration of N-acetylcysteine as a result effective variable, and the Examiner cites to the case of In re Aller, 220 F2.d 454, 105 USPQ 233 (CCPA 1955) for the proposition that such changes of result effective variables are not patentable where the difference is one of degree and not of kind. The current situation is significantly different than the factual situation presented in Aller. There is no basis for finding a motivation by one of ordinary skill in the art to "optimize" any composition for efficacy of treatment in the quite different context of oral mucositis as a side effect of cancer therapy.

In regards to claim 143, one of ordinary skill in the art would have no motivation for making such a composition containing N-acetylcysteine, let alone also with the specific properties at the refrigerated temperature.

Under claim 20, the composition is required to have reverse-thermal viscosity behavior, but not exhibit reverse thermal gelation. Both Krezanoski and Piechota disclose reverse-thermal gelation, but not reverse-thermal viscosity behavior without reverse-thermal gelation in relation to their compositions.

Claim 25 depends under Claim 24, and requires that the composition has a property that both of the poloxamer 407 and the N-acetylcysteine are dissolved in the water of the carrier liquid when the composition is at a temperature of 5°C. None of

Hoeck et al., Krezanoski and Piechota discloses or suggests a composition having these properties when the composition is at 5°C.

Claim 31 further requires that the composition comprises a bioadhesive agent that is different than the N-acetylcysteine and the poloxamer 407.

Each of these Claims further requires that the composition have a property of particular viscosity behavior depending on the temperature. The Examiner's position, therefore, appears to be that viscosity requirements of Claims 133, 134 and 135 are inherent in the compositions of Krezanoski and Piechota, and therefore also are obvious in the composition of the claims. However, such a position is not consistent with the law concerning inherency. Recognizing based on the teachings of Krezanoski that the viscosity of the delivery compositions of the types disclosed in Krezanoski and Piechota will vary depending upon the particular composition and solutes included the viscosity limitations of Claims 133, 134 and 135 are not inherently disclosed by the references.

Examiner's Response

In response, the combination of Hoeck and Krezanoski to provide a composition would be in regards to a composition comprising a mucolytic agent. It would have been obvious to optimize the mucolytic agent to achieve an effective formulation. Further although there appear to unexpected results for 10% N-acetylcysteine, these results are not representative of the concentration ranges claimed by Applicant. The rejections over Hoeck and Krezanoski and Hoeck and Piechota are withdrawn in regards to claim 140 145, and 147. In regards to the refrigerated properties, it is reasonable to conclude that

the compositions of the combined teachings will possess this property because the compositions of the references and the instant claims are substantially the same. In response to claim 20, the claim recites "wherein the amount of the water, as formulated in the composition, does not interact with the poloxamer 407 to impart reverse-thermal gelation properties to the compositions". The compositions are flowable liquids in the reference and comprise overlapping amounts of the same poloxamer, therefore it is reasonably concluded that when the compositions comprise the same amounts in water they will have the same properties. Furthermore the specification appears to disclose the therapeutic compositions may become gelatinous and this is dependent on the concentration of the poloxamer (page 11, lines 1-5 of the instant specification). In regards to claim 31, Hoeck discloses the liquid and gels in the reservoir may comprise various copolymers and adhesives are also used (col. 4, lines 1-10). Also Krezanoski discloses aqueous vehicles can be thickened by the addition of gums or cellulose derived viscosity building agents (col. 1, lines 60-63). It is *prima facie* obviousness to select a known material based on its suitability for its intended use. See MPEP 2144.07. It would have been obvious to add a bioadhesive polymer for its known function.

In regards to claims pertaining to viscosity, Applicant has argued that viscosity may be adjusted according to the material comprised in the desired compositions. Piechota disclose the desire for low viscosity compositions (col. 2, lines 38-50). Therefore normally, changes in result effective variables are not patentable where the difference involved is one of degree, not of kind; experimentation to find workable conditions generally involves the application of no more than routine skill in the art. See

MPEP 2144.05 II. Therefore it would have been obvious to adjust the components of the compositions to yield the desired viscosity to achieve a flowable liquid.

Obvious-Type Double Patenting (New Rejections)

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1) Claims 1, 13, 15, 17, 19, 20, 24, 25, 31, 35, 38, 133-137, 140, 142, 143 and 145-152 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 5, 6 and 8-23 of U.S. Patent No. 6,685,917. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are coextensive insofar as they comprise a composition

or using compositions comprising a reverse-thermal gelation biocompatible polymer that is a polyoxyalkylene block copolymer comprising at least one block of a first polyoxyalkylene and at least one block of a second polyoxyalkylene that is different than the first polyoxyalkylene which has the characteristic of exhibiting reverse-thermal viscosity behavior. The compositions also comprise a precursor for glutathione biosynthesis that is effective for treating the oral mucositis. In the instant case the compositions are useful for treating mucositis, which is the condition being treated in the method of the patented claims. The compositions of the instant claims are species of the patented claims insofar as the instant claims recite a specific pharmaceutical substance that is N-acetylcysteine whereas the patented claims disclose the pharmaceutical substance in the dependent claims. The instant claims also recite a specific biopolymer, poloxamer 407. When looking to the patented disclosure to determine the polymers encompassed by the recitation of polyoxyalkylene block copolymer of the patented claims, these include Pluronic F-127® (poloxamer 407).

It would have been obvious to use poloxamer 407 in the compositions of the patented claims motivated by the desire to use a polymer that is disclose by the patent specification as one of the polymers encompassed by the recitation polyoxyalkylene block copolymer.

2) Claims 1, 13, 15, 17, 19, 20, 24, 25, 31, 35, 38, 133-137, 140, 142, 143 and 145-152 are rejected on the ground of nonstatutory obviousness-type double patenting

as being unpatentable over claims 1-3, 5, 6 and 8-23 of U.S. Patent No. 6,685,917 in view of Krezanoski (US 4,188,373).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are coextensive insofar as they comprise a composition or using compositions comprising a reverse-thermal gelation biocompatible polymer that is a polyoxyalkylene block copolymer comprising at least one block of a first polyoxyalkylene and at least one block of a second polyoxyalkylene that is different than the first polyoxyalkylene which has the characteristic of exhibiting reverse-thermal viscosity behavior. The compositions also comprise a precursor for glutathione biosynthesis that is effective for treating the oral mucositis. In the instant case the compositions are useful for treating mucositis, which is the condition being treated in the method of the patented claims. The compositions of the instant claims are species of the patented claims insofar as the instant claims recite a specific pharmaceutical substance that is N-acetylcysteine whereas the patented claims disclose the pharmaceutical substance in the dependent claims. The instant claims also recite a specific biopolymer, poloxamer 407.

The pending claims differ from the patented claims insofar as they disclose a specific species of a polyoxyalkylene copolymer such as poloxamer 407.

Krezanoski has been discussed in detail in the Office Action mailed September 20, 2007.

It would have been obvious to one of ordinary skill in the art to have used poloxamer 407 as the polyoxyalkylene copolymer in the compositions of the patented

claims motivated by the desire to use a copolymer will increase drug absorption by the mucous membrane for rapid introduction into the system, as disclosed by Krezanoski.

3) Claims 1, 13, 15, 17, 19, 20, 24, 25, 31, 35, 38, 133-137, 140, 142, 143 and 145-152 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20, 24-30, 34-41 and 43-56 of copending Application No. 11/540,357. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims have overlapping subject matter insofar as they recite compositions or methods of using compositions for treating mucositis with N-acetylcysteine and a liquid vehicle. The claims of the copending application recite a method for treating oral mucositis with a composition comprising N-acetylcysteine as the active agent. The claims further recite a biocompatible polymer such as polyoxyethylene-polyoxypropylene block copolymer, specifically poloxamer 407, in the dependent claims. The instant claims differ insofar as the composition of the instant claims is further defined in the independent claim and comprises poloxamer 407 whereas the copending claims further define the composition in the dependent claims such as reciting poloxamer 407 (claim 9) and the instant claims recite a compositions whereas the copending claims recite a method.

It would have been obvious to use the compositions of the instant claims in the method of the copending claims motivated by the desire to use a compositions

comprising N-acetylcysteine and poloxamer 407, which is disclosed as a biocompatible polymer used in the methods of the copending claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4) Claims 1, 13, 15, 17, 19, 20, 24, 25, 31, 35, 38, 133-137, 140, 142, 143 and 145-152 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4, 6 and 8-33 of copending Application No. 11/525,752. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are coextensive insofar as they recite a composition and a method of using a composition for treating the oral cavity with N-acetylcysteine and a liquid vehicle. The instant claims differ insofar as the composition of the instant claims is further defined in the independent claims and comprises poloxamer 407 whereas the copending claims further define the composition in the dependent claims and comprises poloxamer 407.

Esophagitis is a condition within the oral cavity as is mucositis. It would have been obvious to one of ordinary skill in the art to use the compositions of the instant claims to treat esophagitis of the copending claims motivated by the desire to use a composition that treats conditions of the oral cavity and comprises N-acetylcysteine and a poloxamer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5) Claims 1, 13, 15, 17, 19, 20, 24, 25, 31, 35, 38, 133-137, 140, 142, 143 and 145-152 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 11/605,983. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are coextensive insofar as they recite a composition and a method of using a composition for treating the oral cavity with N-acetylcysteine and a liquid vehicle. The instant claims are species claims of the copending claims insofar as the instant claims recite a specific sulfur-containing antioxidant, N-acetylcysteine and a specific liquid vehicle for delivery. The instant claims differ insofar as the composition of the instant claims is further defined in the independent claims and comprises poloxamer 407 whereas the copending claims further define the composition in the dependent claims and comprises polyoxyalkylene copolymer.

It would have been obvious to one of ordinary skill in the art to use the compositions of the instant claims to treat xerostomia of the copending claims motivated by the desire to use a composition that treats conditions of the oral cavity and comprises N-acetylcysteine and a poloxamer, species of the independent claim of the copending Application.

The copending Application has been allowed on December 2, 2008.

6) Claims 1, 13, 15, 17, 19, 20, 24, 25, 31, 35, 38, 133-137, 140, 142, 143 and 145-152 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 9-17, 19-21 and 23-32 of copending Application No. 11/525,983 in view of Jacob (US 2002/0103219). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are coextensive insofar as they recite a composition and a method of using a composition for treating a mucosal surface with N-acetylcysteine and a liquid vehicle. The instant claims differ insofar as the composition of the instant claims is further defined in the independent claims and comprises poloxamer 407 making them species claims of the copending claims, whereas the copending claims further define the composition in the dependent claims and comprises poloxamer 407.

Jacob discloses a composition that is used to treat radiation or chemical induce conditions such as proctitis and mucositis. The reference differs from the claims insofar as it does not disclose the compositions comprise acetylated cysteine or poloxamer 407.

It would have been obvious to one of ordinary skill in the art to use the compositions of the instant claims to treat proctitis of the copending claims motivated by the desire to use a composition that treats conditions of the mucosa, which comprises N-acetylcysteine and a poloxamer, species of the copending claims; and because compositions that treat mucositis can treat proctitis, as disclosed by the Jacob.

This is a provisional obviousness-type double patenting rejection.

Claims 1, 13, 15, 17, 19, 20, 24, 25, 31, 35, 38, 133-137, 140, 142, 143 and 145-152 are rejected.

No claims allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEZAH W. ROBERTS whose telephone number is (571)272-1071. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frederick F. Krass can be reached on 571-272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Lezah W Roberts/
Examiner, Art Unit 1612

/Frederick Krass/
Supervisory Patent Examiner, Art Unit 1612